

an insertion device operably coupled to the injection tube that dispenses the volume of tissue promoting material into the cavity in a piecemeal manner as a plurality of aliquots of the tissue promoting material.

- 5     2.     The nuclear replacement of claim 1 wherein the tissue promoting material is selected from a group consisting of fibrous tissue promoting material, cartilaginous promoting material and any combination thereof.
- 10     3.     The nuclear replacement of claim 1 wherein the tissue promoting material is a preparation of multilayered bands piled in a circular configuration.
4.     The nuclear replacement of claim 1 wherein the tissue promoting material is a preparation of tangled knots.
- 15     5.     The nuclear replacement of claim 1 wherein the tissue promoting material is a preparation of multiple fabric bands.
- 20     6.     The nuclear replacement of claim 1 wherein the tissue promoting material is combined with hydrogel.
7.     The nuclear replacement of claim 1 wherein the tissue promoting material is surrounded by a porous container.

8. The nuclear replacement of claim 1 wherein the tissue promoting material is selected from a group consisting of: autograft, allograft, or xenograft of fascia, manmade polymeric fiber, talc, tissue promoting pharmaceuticals, tissue promoting minerals, tissue morphogenic protein, notochord cells and any combination thereof.

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9. A system for semi-biologic nuclear replacement for a degenerated disc of a spine of a mammalian body comprising:

an injection tube having a small diameter corresponding to a small entrance hole defined in the degenerated disc that is at least partially excavated to create a cavity;

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a volume of strands of tissue promoting material combined with hydrogel strands sufficient to fill at least a portion of the cavity; and

an insertion device operably coupled to the injection tube that dispenses the volume of strands of tissue promoting material combined with strands of hydrogel into the cavity in a piecemeal manner as a plurality of aliquots of the tissue promoting material and hydrogel strands.

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10. The nuclear replacement of claim 9 wherein the tissue promoting material is selected from a group consisting of fibrous tissue promoting material, cartilaginous promoting material and any combination thereof.

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11. The nuclear replacement of claim 9 wherein the tissue promoting material is a preparation of multilayered bands piled in a circular configuration.

12. The nuclear replacement of claim 9 wherein the tissue promoting material is a preparation of tangled knots.

5 13. The nuclear replacement of claim 9 wherein the tissue promoting material is a preparation of multiple fabric bands.

14. The nuclear replacement of claim 9 wherein the tissue promoting material is surrounded by a porous container.

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15. The nuclear replacement of claim 9 wherein the tissue promoting material is selected from a group comprising: autograft, allograft, or xenograft of fascia, autograft, manmade polymeric fiber, talc, tissue promoting pharmaceuticals, tissue promoting minerals, tissue morphogenic protein, notochord cells and any combination thereof.

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16. A system for semi-biologic nuclear replacement for a degenerated disc of a spine of a mammalian body comprising:

an injection tube having a small diameter corresponding to a small entrance hole

defined in the degenerated disc that is at least partially excavated to create a cavity;

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at least one strand of pliable tissue promoting material having an effective cross-sectional diameter less than the small diameter of the injection tube;

the at least one strand of pliable tissue promoting material having a volume  
sufficient to fill at least a portion of the cavity; and

an insertion device operably coupled to the injection tube that dispenses a length  
of the pliable tissue promoting material into the cavity such that the at least one strand is  
5 folded so as to fill at least a portion of the cavity.

17. The nuclear replacement of claim 1 wherein the tissue promoting material is selected  
from a group consisting of fibrous tissue promoting material, cartilaginous promoting material  
and any combination thereof.

10 18. The nuclear replacement of claim 16 wherein the tissue promoting material is a  
preparation of multilayered bands piled in a circular configuration.

15 19. The nuclear replacement of claim 16 wherein the tissue promoting material is a  
preparation of tangled knots.

20. The nuclear replacement of claim 16 wherein the tissue promoting material is a  
preparation of multiple fabric bands.

20 21. The nuclear replacement of claim 16 wherein the tissue promoting material is combined  
with hydrogel.

22. The nuclear replacement of claim 16 wherein the tissue promoting material is surrounded by a porous container.

23. The nuclear replacement of claim 16 wherein the tissue promoting material is selected from a group comprising: autograft, allograft, or xenograft of fascia, autograft, manmade polymeric fiber, talc, tissue promoting pharmaceuticals, tissue promoting minerals, tissue morphogenic protein, notochord cells and any combination thereof.

24. A method of constructing a semi-biologic nuclear replacement for a degenerated disc of a spine of a mammalian body comprising:

boring a small entrance hole into the degenerated disc;

creating a cavity by reaming the degenerated disc and at least partially removing a degenerated disc nucleus via the small entrance hole; and

inserting a plurality of pieces of tissue promoting material into the cavity to create the semi-biologic nuclear replacement for the degenerated disc by stimulating the tissue forming response in the mammalian body to the tissue promoting material.

25. The method of claim 24 wherein the tissue promoting material is selected from a group consisting of fibrous tissue promoting material, cartilaginous promoting material and any combination thereof.

26. The method of claim 24 wherein endplate cartilage is partially removed.

27. The method of claim 24 wherein endplate cartilage is retained.

28. The method of claim 24 wherein portions of an outer annulus are removed.

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29. The method of claim 24 wherein portions of an outer annulus are retained.

30. The method of claim 24 wherein the tissue promoting material is selected from a group comprising: autograft, allograft, or xenograft of fascia, manmade polymeric fiber, talc, tissue  
10 promoting pharmaceuticals, tissue promoting minerals, tissue morphogenic protein, notochord cells and any combination thereof.

31. The method of claim 24 wherein the disc cavity surface is coated with a tissue promoting material.

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32. The method of claim 24 wherein the tissue promoting material is combined with hydrogel.

33. The method of claim 24 further comprising:

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inserting a porous container into the disc cavity;

said porous container adapted for tissue promoting material insertion therein.

34. A method of constructing a semi-biologic nuclear replacement for a degenerated disc of a spine of a mammalian body comprising:

boring a small entrance hole into the degenerated disc;

creating a cavity by reaming the degenerated disc and at least partially removing a degenerated disc nucleus via the small entrance hole; and

inserting at least one strand of pliable tissue promoting material into the cavity such that a length of the at least one strand is folded within the cavity to create the semi-biologic nuclear replacement for the degenerated disc by stimulating the tissue forming response in the mammalian body to the tissue promoting material.

35. The method of claim 34 wherein the tissue promoting material is selected from a group consisting of fibrous tissue promoting material, cartilaginous promoting material and any combination thereof.

36. The method of claim 34 wherein endplate cartilage is partially removed.

37. The method of claim 34 wherein the endplate cartilage is retained.

38. The method of claim 34 wherein portions of an outer annulus are removed.

39. The method of claim 34 wherein an outer annulus is retained.

40. The method of claim 34 wherein the tissue promoting material is selected from a group consisting of: autograft, allograft, or xenograft of fascia lata, autograft, manmade polymeric fiber, talc, tissue promoting pharmaceuticals, tissue promoting minerals, tissue morphogenic protein, notochord cells, and any combination thereof.

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41. The method of claim 34 wherein the disc cavity surface is coated with a tissue promoting material.

42. The method of claim 34 wherein the tissue promoting material is combined with  
10 hydrogel.

43. The method of claim 34 further comprising:  
inserting a porous container into the disc cavity;  
said porous container adapted for tissue promoting material insertion therein.

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44. A method of constructing a semi-biologic nuclear replacement for a degenerated disc of a spine of a mammalian body comprising:

boring a small entrance hole into the degenerated disc;

creating a cavity by reaming the degenerated disc and at least partially removing a

20 degenerated disc nucleus via the small entrance hole; and

inserting a plurality of pieces of tissue promoting material combined with a plurality of pieces of hydrogel into the cavity to create the semi-biologic nuclear replacement for the degenerated disc



by stimulating the tissue forming response in the mammalian body to the tissue promoting material and hydrogel.

45. The nuclear replacement of claim 44 wherein the tissue promoting material is selected  
5 from a group consisting of fibrous tissue promoting material, cartilaginous promoting material and any combination thereof.

46. The method of claim 44 wherein endplate cartilage is partially removed.

10 47. The method of claim 44 wherein the endplate cartilage is retained.

48. The method of claim 44 wherein portions of an outer annulus are removed.

49. The method of claim 44 wherein an outer annulus is retained.

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50. The method of claim 44 wherein the tissue promoting material is selected from a group consisting of: autograft, allograft, or xenograft of fascia lata, autograft, manmade polymeric fiber, talc, tissue promoting pharmaceuticals, tissue promoting minerals, tissue morphogenic protein, notochord cells, and any combination thereof.

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51. The method of claim 44 wherein the disc cavity surface is coated with a tissue promoting material.

52. The method of claim 44 further comprising:

inserting a porous container into the disc cavity;

said porous container adapted for tissue promoting material insertion therein.